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STATISTICAL BULLETIN

METROPOLITAN LIFE INSURANCE COMPANY

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Mothers Today Are Younger

MORE and more, the burden of rearing the Nation's children is being borne by our very young women. At the same time, the proportion of young women within the reproductive ages is decreasing. The essential facts portraying the changes in the situation during the last two decades are shown in the graph on page 2. The left-hand panel sets forth the percent distribution of births in the United States according to the age of the mother, separately for every fifth calendar year from 1920 to 1940. The right-hand panel shows the age distribution of females within the range of ages from 10 to 54 years for 1920, 1930, and 1940.

In 1920 young women under 20 years of age contributed 8.6 percent of the total births for the year. This percentage increased gradually to 11.0 percent in 1935 and 1940. Women of ages 20 to 24 also contributed an increasing percentage of children to the Nation during the two decades from 1920 to 1940, the figures mounting from 28.1 percent at the beginning of this period to 31.3 percent at the end. However, the next age group, 25 to 29 years, presents a mixed picture. The relative contribution to total annual births born by women of this age group at first fell from 27.9 percent in 1920 to 26.1 percent in 1930, but subsequently rose to 28.6 percent in 1940. The net result was that, for this age group, as for those younger, the relative contribution at the end of the 20-year period was greater than at its beginning.

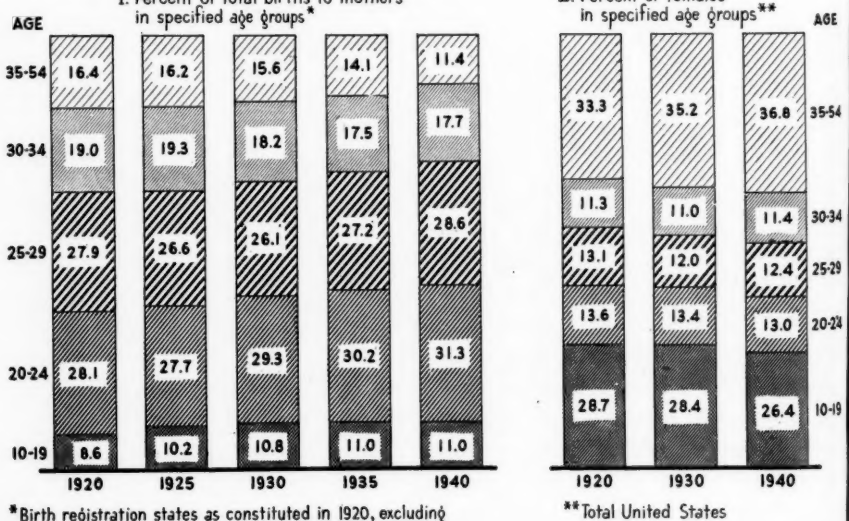
In the case of women of ages 30 to 34, after some fluctuation, the percentage contribution to total annual births was *smaller* at the end of the two decades than at its beginning. In 1920 women of this age group bore 19.0 percent of the children for the year, while in 1940 the figure fell to 17.7 percent. A much more marked decrease is found among women of ages 35 or more who bore children. Whereas these women accounted for 16.4 percent, or practically one sixth of the births in 1920, by 1940 the figure for this age group fell to 11.4 percent, or about one ninth of the total.

The decrease in the relative contribution of births to the annual total by women of the later ages within the reproductive period is of

great significance. It is the women of these ages who, in earlier days, provided the large families of the country. But it is mainly these women who, during the last two decades, and even before that, have been restricting their number of births, thereby reducing the average size of the American family.

These changes take on an added significance when we study the shift in the age distribution of women within the reproductive period of life, taken here, for convenience, as 10 to 54 years. An important contrast is immediately apparent from a comparison of the right- and left-hand panels of the graph on this page. During the period through which the proportion of total annual births among young mothers was increasing, as seen in the left-hand panel, the proportion of young women within the reproductive ages has been decreasing, as seen on the right. Thus, while females of ages 10 to 19 formed 28.7 percent of the total at ages 10 to 54 in 1920, the figure fell to 26.4 percent in 1940. Similarly, the percentages for the age group 20 to 24 decreased from 13.6 in 1920 to 13.0 in 1940. A drop may also be noted for the next age group, 25 to 29, while the group 30 to 34 remained practically unchanged. On the other hand, the proportions for the group 35 to 54 years of age increased steadily, from 33.3 percent in 1920 to 36.8 percent in 1940. This is the age group whose relative con-

I. DISTRIBUTION OF BIRTHS BY AGE OF MOTHERS
II. DISTRIBUTION OF FEMALES, AGES 10 TO 54
United States 1920 to 1940



*Birth registration states as constituted in 1920, excluding Maine and South Carolina, without distinction by race.

**Total United States

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tribution to total annual births is decreasing.

Although information is lacking, there is good reason to believe that the trends in age distribution of mothers and of women within the reproductive period have continued since 1940 to the present time. Indeed, the increase in the proportion of women at the higher ages is merely a reflection of the aging of our population, a phenomenon commonly recognized. Also, the spurt in the birth rate within the last two years is directly attributable, in large measure, to a substantial increase in births among young mothers recently married. However, the outlook for the immediate future is not so clear. True enough, the aging of the population may be expected to continue. On the other hand, it is very likely that the birth rate will soon drop from its present comparatively high level as the result of the withdrawal of large numbers of men for military service. The decrease in births will be principally among the younger women, for it is among them that family life has been most interrupted. Evidently the burden of maintaining our birth rate near its present level will fall upon the women of 30 or more; in other words, an increase in average size of existing families would be required. Actually, most married women of these ages already have children, so that their husbands are, for the most part, still out of the classes called for military service. In addition, many thousands of these families are now in a better economic position than ever to rear more children. These facts may help to moderate the unfavorable effect of the war upon the birth rate of the immediate future.

Fatal Accidents to Infants in Wartime

A RISING birth rate, such as experienced during the last few years, is inevitably accompanied by a proportionate increase in the number of accidental deaths in earliest childhood, our present halfhearted attitude toward child safety being what it is. We may therefore expect that in 1942, and probably also in 1943, the number of children under 1 year of age who will die of accidental injuries will be well above the average of the last 10 years, unless there is a real awakening to the special dangers of infancy. Previous experience shows that of every 1,000 born, one will die in the first year of life as the result of an accident. Using this ratio as a basis, it is estimated that no fewer than 2,600 children under 1 year of age will be accidentally killed in 1942. The number, however, may be as many as 3,000 if, as is not unlikely, there is an actual increase in the accident death rate this year.

Winter is the time when the greatest number of infant fatalities occur. It is appropriate, therefore, at this time to give thought to the causes of accidents to youngsters and to the manner in which these

will be affected by present-day conditions. One item of importance today is that in a large number of homes, owing to the special conditions of family life arising out of wartime economy, it will be more difficult than ever to safeguard children properly. This is true not only of communities to which a large number of workers have migrated, with resulting scarcity of adequate housing, but it holds also for the entire country.

Many mothers, either through necessity or through desire to aid the war effort, will enter industry as soon as possible after the baby is born, thus taking away its natural protector and leaving it to the care of persons less experienced, and less concerned about the baby's welfare. The mother's absence will be felt more than in normal times inasmuch as a competent substitute will be hard to find. Those other members of the family usually called upon to help out will quite likely also be busy with war activities and unable to give as much help as in other years. It would be best, of course, if mothers of young children could stay out of industry entirely. The War Manpower Commission, alive to this situation, has declared: "The first responsibility of women with young children, in war as in peace, is to give suitable care in their own homes to their children." But for one reason or another this sound advice cannot or will not always be followed. Industry and the communities can help in protecting babies by making provision for well-supervised day nurseries. It would be very helpful, too, in saving lives, if everyone responsible for the safety of an infant were made aware that the dangers to child life from accidents are numerous and very serious.

Some years ago in this BULLETIN* results were shown of an analysis of the records of accidental deaths of young children. The greatest hazard encountered by infants was found to be that of smothering. More than a third of all the fatal accidents to children under 1 year were chargeable to this cause. More recently the proportion has run much higher, in one year actually exceeding one half. A large percentage of deaths of this kind result from measures to keep the baby warm—a fact of especial importance to parents living in homes subject to fuel-oil rationing. Suffocation in bed clothing is the principal cause of death, and the next most numerous fatalities are caused by overlaying, the mother or other adult sleeping in the same bed with the child. The parent who covers a child with more or heavier blankets to offset the decrease in the amount of heat in the home this winter, should make sure that the bed clothing is arranged so that the child may not be suffocated. The use of warm sleeping garments reduces the amount of covering needed to keep the baby warm. Soft pillows are also an important hazard for the very young, not a few of whom have been found smothered, their faces buried in the pillow.

*STATISTICAL BULLETIN. Metropolitan Life Insurance Company. October 1937, page 1.

Foreign bodies lodged principally in the air passages, particularly aspired vomitus, have caused a large number of deaths. Many other fatalities occur from inhaling food or milk, or from swallowing safety pins, marbles, thumb tacks, and various other objects.

Hot-water bottles left in the crib beside the baby to keep it warm should be well covered and tested to see that they are not so hot as to burn the baby. Only well-stoppered bottles should be used. Other important causes of accidents are hot liquids in pots, pans, and cups left within reach of babies; poisons and drugs left carelessly about; stoves or other hot objects against which the child may fall; falls out of cribs or beds, and falls out of windows and down stairs.

Geographic Contrasts in Tuberculosis in Adolescence and Maturity

TUBERCULOSIS, in the United States, takes about one half of its death toll from the ages to which we are looking for our fighting forces and for a substantial part of the additional personnel needed for our farms and war industries. In 1940, our last prewar year, there were recorded more than 60,000 deaths from tuberculosis and about 32,000, or more than half, were at ages from 15 to 44 years. Nor do these deaths represent the entire toll which tuberculosis takes of our fighting and productive forces. To this number must be added the numerous sufferers from the disease who are incapacitated for work at a time when the most efficient use of our man power is called for. An insight into our places of strength and weakness in this regard is provided by a study of the death rate from tuberculosis at ages 15 to 44 within the States of the Union. The pertinent facts are shown in the table on page 6 and in the map on page 7 for the general population of 1940. The table also includes data for 1929-1931. For the Southern States, which have large colored populations, the figures relate to the white element only, data for the entire population in this area in 1929-1931 not being available.

There are striking differences in tuberculosis mortality within the country at the ages of adolescence and maturity (15 to 44 years), from a low of 11.4 per 100,000 in Idaho to highs of 65.4 in Texas, 91.2 in New Mexico, and 184.8 in Arizona. Each of these States with very high rates has a large proportion of Mexicans, among whom tuberculosis is widely prevalent; in addition, Arizona attracts many sufferers from tuberculosis from other States. Generally speaking, the States with the best records lie in the midwest and mountain areas of the country, while those with the poorest showing lie along the Mexican border.

The general improvement in tuberculosis mortality during the last two decades has brought the death

rates to very low levels. In 1940 there were six States in which the tuberculosis death rate at ages 15 to 44 was actually less than 20 per 100,000 and another 12 States where the rates were between 20 and 30 per 100,000. In contrast to this we find, a decade earlier, that only one State fell below a rate of 30 per 100,000. Even greater differences are shown in the number of States with rates of less than 40 per 100,000 in the two periods; there were 30 such States in 1940, but only five in 1929-1931. Just as pronounced is the change in the situation in regard to States with high death rates from tuberculosis. Whereas, in 1929-1931, there were 30 States with death rates of more than 60 per 100,000 at ages 15 to 44, ten years later only four States were above that level.

The changes in the mortality levels of tuberculosis at these ages indicate, of course, marked improvements in the death rates. In 10 States the death rate from tuberculosis at ages 15 to 44 fell by as

DEATH RATES† PER 100,000 FROM TUBERCULOSIS—AT AGES 15–44 IN EACH STATE AND IN THE UNITED STATES, 1929–1931 AND 1940

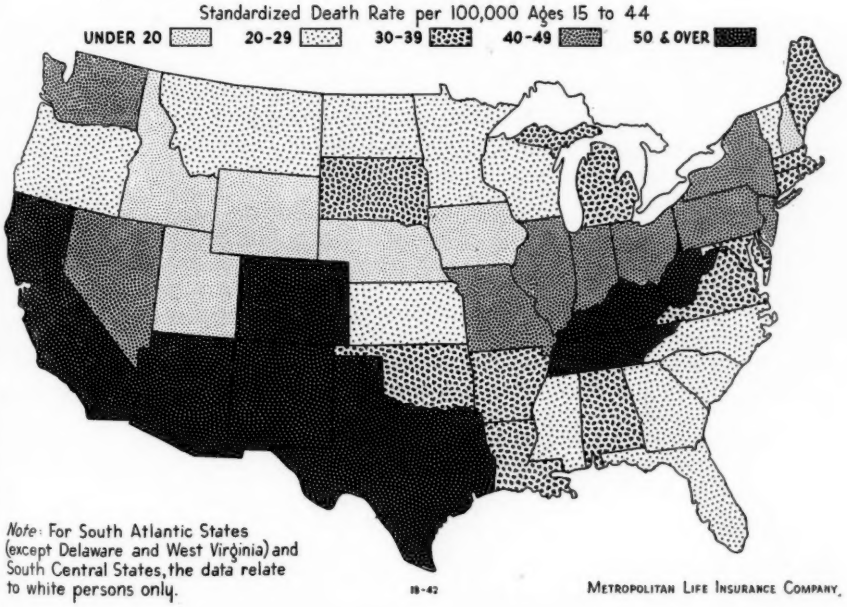
STATE	DEATH RATE PER 100,000		PERCENT IMPROVEMENT 1929-31 TO 1940	STATE	DEATH RATE PER 100,000		PERCENT IMPROVEMENT 1929-31 TO 1940
	1940	1929-31			1940	1929-31	
Idaho	11.4	36.7	68.9	Maine	35.0	74.2	52.8
Utah	12.8	28.5	55.1	Michigan	35.5	80.4	55.8
Iowa	16.1	38.2	57.9	Massachusetts	35.6	80.3	55.7
Nebraska	18.1	30.0	39.7	Arkansas*	36.2	63.6	43.1
Wyoming	18.6	35.8	48.0	Oklahoma*	37.3	48.5	23.1
New Hampshire	19.1	59.8	68.1	Maryland*	39.1	79.0	50.5
Florida*	20.6	43.4	52.5	Washington	40.2	72.3	44.4
North Dakota	20.8	42.3	50.8	Ohio	42.3	82.8	48.9
Mississippi*	21.0	44.4	52.7	Indiana	42.6	78.9	46.0
District of Columbia*	21.8	63.8	65.8	New Jersey	42.9	81.5	47.4
South Carolina*	21.8	44.5	51.0	New York	43.7	83.2	47.5
Vermont	23.1	68.6	66.3	Nevada	44.2	69.6	36.5
Kansas	23.1	43.2	46.5	Pennsylvania	45.0	76.8	41.4
Minnesota	24.3	61.2	60.3	Missouri	45.4	87.5	48.1
Oregon	24.7	54.3	54.5	Delaware	46.5	93.4	50.2
Montana	25.3	59.8	57.7	Illinois	48.9	80.0	38.9
Wisconsin	25.9	65.6	60.5	West Virginia	51.4	85.0	39.5
Georgia*	26.0	49.3	47.3	California	51.6	112.2	54.0
North Carolina*	27.6	70.7	61.0	Tennessee*	53.6	102.9	47.9
Rhode Island	30.4	77.9	61.0	Colorado	54.1	169.7	68.1
Alabama*	30.6	56.4	45.7	Kentucky*	63.8	102.9	38.0
South Dakota	31.4	57.4‡	45.3	Texas*	65.4	§	§
Virginia*	32.2	65.7	51.0	New Mexico	91.2	293.1	68.9
Connecticut	33.2	73.7	55.0	Arizona	184.8	466.1	60.4
Louisiana*	33.9	59.7	43.2				

†Standardized for age on the basis of the Standard Million of England and Wales, 1901.
*White only.
‡Death rate for 1930-1931.
§Data not available.

much as 60 to 70 percent. It is interesting to find that the greatest improvement (68.9 percent) was made by the State ranking best (Idaho) and also by the State ranking next to the worst (New Mexico). There were 16 States in which the death rate decreased anywhere from 50 to 60 percent, and another 15 with improvements ranging from 40 to 50 percent. Five States had declines of from 30 to 40 percent, while the State with lowest decline, Oklahoma, registered an improvement of 23 percent. There is no definite geographic pattern apparent in these changes in tuberculosis mortality from 1929-1931 to 1940. The States with the best records for improvement are in New England and in the South, as well as in the Midwest and Far West. Likewise, there is no particularly localized section of the country in which the improvement was least evident.

There is a special significance in this lack of pattern in the improving mortality picture. The gains that have been made in the struggle against tuberculosis are not peculiar to any particular area of the country; geography imposes no limitations. Furthermore, the States with low mortality fare just as well in regard to extent of improvement as the States with high mortality, where the room for improvement is greater. It is apparent from this that the States and communities of this country have it within their

TUBERCULOSIS MORTALITY IN ADOLESCENCE AND MATURITY
United States, 1940



Note: For South Atlantic States (except Delaware and West Virginia) and South Central States, the data relate to white persons only.

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power, to a large degree, to determine their progress in the fight against tuberculosis. That such control is possible at the present time is of special importance. The crowding of young persons — at the stage of life when susceptibility to tuberculosis is high—into hastily improvised shelters around newly developed centers of war industries, presents grave problems to local health authorities. The problem is aggravated by the shortage of medical, nursing, and other skilled help. The current situation in the battle against tuberculosis calls for the exercise of great ingenuity, not only to hold our present gains, but to press the fight forward. The most recent reports are indeed heartening, for they show continued progress through our first year of war. But we must be on our guard, for past experience, as well as present experience abroad, is that prolonged war is always accompanied by an increase in mortality from tuberculosis, and that therefore more than ordinary vigilance and endeavor to keep control is urgently needed.

Pneumonia Death Rate Lowest on Record

THE death rate from pneumonia and influenza decreased to a new low record in its last annual cycle, September 1941 to August 1942, according to the experience of the Metropolitan Life Insurance Company. The average rate for pneumonia and influenza among the Industrial policyholders in the last 12-month cycle was equivalent to 32 deaths a year per 100,000 persons. This is 21 percent less than the previous low record made only a year before, and 63 percent less than the rate five years before. In the adjoining table are shown the annual death rates from pneumonia and influenza for a series of 12-month cycles since 1936 to 1937.

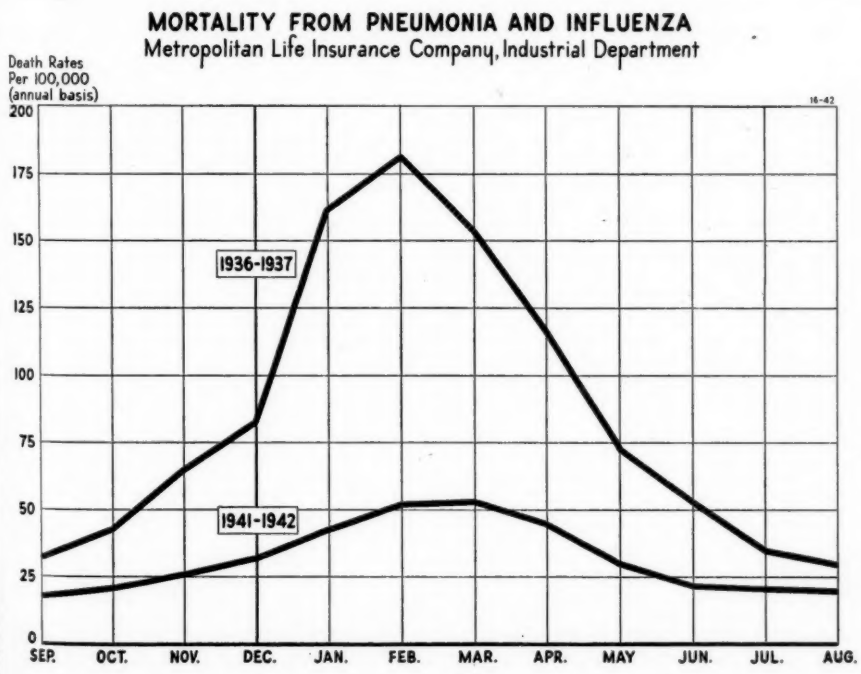
Pneumonia and influenza are distinctly seasonal diseases, and their very characteristic 12-month cycle is exhibited in the chart on page 9. Starting in September, the death-rate curve rises continuously, reaches a maximum in the winter months, and then declines steadily to its lowest level in August. In the chart the upper curve represents the mortality rates from pneumonia and influenza combined, reported in the Industrial Department of the Metropolitan Life Insurance Company, in the 12-month period September 1936 to August 1937, inclusive, while the lower curve represents the corresponding data for 1941 to 1942.

DECLINE IN THE MORTALITY FROM PNEUMONIA (ALL FORMS) AND INFLUENZA IN SUCCESSIVE ANNUAL CYCLES.

PERIOD, 12 MONTHS ENDING AUGUST 31	PNEUMONIA DEATH RATE PER 100,000 (ANNUAL BASIS)	PERCENT DECREASE SINCE 1937
1937	85.7	—
1938	59.5	31
1939	55.8	35
1940	44.0	49
1941	40.3	53
1942	31.9	63

The profile of the seasonal mortality curve has been changed almost beyond recognition. Five years ago the normal death-rate curve for these diseases was distinguished by an extremely sharp peak in February, rising to more than 175 deaths per 100,000 expressed on an annual basis. On the curve for the recent year, although a maximum here also occurs in the winter months, the profile is relatively flat. In fact, the death rate from pneumonia and influenza over the winter months was about 70 percent less than in the winter of 1936-1937, which was considered an average winter at that time. Although the contrast is most marked in that portion of the curve which relates to the winter months, actually there is also a very considerable reduction in mortality at other seasons. In the autumn of 1941 and the spring of 1942, pneumonia mortality was about 60 percent less than the corresponding seasons of five years prior; and in the summer of 1942, the rate was reduced about 40 percent. Naturally, the greatest saving of lives through these reductions has been secured for the winter months, when the incidence of pneumonia is at a maximum.

These new low death rates from pneumonia reflect one of the outstanding medical achievements of recent times. But the prevention and control of pneumonia in the future is the concern not only of the



medical profession but of every man and woman. No common cold can be regarded lightly, and the warning signs or symptoms of more serious respiratory trouble call for prompt medical attention. These precautions are especially timely now, when every day lost from work by our people on account of incapacitation through accident or illness slows down the much-needed production of necessary war materials.

Mortality Report for the Month of October

For many months past we have reported a series of low records of mortality among the Industrial policyholders of the Metropolitan Life Insurance Company. It could hardly be expected that such successive improvements could go on indefinitely. As a matter of fact the month of October shows a rather sharp increase in mortality over September and over October of last year. And yet, despite this rise, the cumulative death rate for the first 10 months of the year (7.4 per 1,000) is still more than 1½ percent below the previous minimum which was recorded at this time last year.

According to the provisional data now available for the general population in the cities of the United States, this upward trend in mortality has been in evidence since the middle of September. In this group the deaths reported during October were about 10 percent above the number reported in the corresponding month of last year. Morbidity reports for the general population of the United States show, however, that the situation with regard to communicable diseases is still favorable. Scarlet fever alone has recorded a significantly higher prevalence than in either September of this year or October of a year ago.

Examination of the specific causes of death among the Industrial policyholders also shows that there has been no appreciable increase in the acute conditions. It is the chronic diseases such as cancer, diabetes, and the cardiovascular-renal conditions that account for a large part of the increase in the death rate. Inasmuch as these conditions had been running at a lower-than-average rate in the earlier months of the year, their record for 1942 still remains comparatively favorable.

Industrial accidents and accidents in public places continue at a higher rate, as compared with recent years. This is, of course, a reflection of the increased industrial activity and the dislocations resulting from the war effort. The effect of the restriction in the use of motor vehicles is, likewise, apparent in the mortality record for the month. The rate for motor vehicle fatalities for October is only two thirds as high as that of a year ago, while the figure for the year to date is down more than 15 percent from last year.

Comparative Data on the Causes of Death Among Industrial Policyholders

The following table shows the mortality among Industrial policyholders for October 1942 and October 1941, together with the death rates for the first 10 months of 1942, 1941, and 1940.

DEATH RATES* PER 100,000 POLICYHOLDERS FROM SELECTED CAUSES. WEEKLY PREMIUM-PAYING INDUSTRIAL BUSINESS — METROPOLITAN LIFE INSURANCE COMPANY

CAUSES OF DEATH	ANNUAL RATE PER 100,000 POLICYHOLDERS*				
	October 1942	October 1941	Year to Date: End of October		
			1942	1941	1940
ALL CAUSES—TOTAL	727.5	675.5	737.2	750.3	763.1
Typhoid fever	0.7	0.9	0.4	0.5	0.7
Measles	—	.3	.5	.9	.4
Scarlet fever	.2	—	.4	.4	.6
Whooping cough	1.1	1.3	1.0	1.3	1.2
Diphtheria	.6	.7	.5	.6	.7
Influenza	2.3	2.1	4.2	8.4	8.0
Pneumonia (all forms)	22.5	19.2	28.9	31.7	36.2
Tuberculosis (all forms)	39.4	36.9	42.2	43.1	44.5
Tuberculosis of respiratory system	35.0	32.4	38.0	39.2	40.1
Syphilis	9.5	10.1	10.7	11.3	11.4
Cancer (all forms)	105.0	94.2	105.2	103.0	101.6
Diabetes mellitus	24.4	22.4	27.9	27.3	28.9
Cerebral hemorrhage	60.0	51.2	60.4	60.2	60.9
Diseases of the coronary arteries and angina pectoris	58.6	49.4	57.4	53.5	51.4
Other chronic heart diseases†	147.4	135.2	156.2	155.0	157.9
Diarrhea and enteritis	7.5	7.7	4.5	4.7	4.5
Appendicitis	5.4	6.1	6.0	7.5	9.0
Chronic nephritis	46.1	45.6	49.8	51.3	56.1
Puerperal state—total	4.7	4.6	4.5	4.7	4.8
Suicides	6.4	7.3	7.2	7.3	8.4
Homicides	3.0	3.8	3.7	3.6	3.7
Accidents—total	49.9	51.4	51.0	50.8	46.4
Home accidents	9.9	9.5	11.6	10.9	11.5
Motor vehicle accidents	15.9	23.1	17.2	20.5	17.1
War deaths	4.5	—	4.1	.1	.2
All other causes of death	128.0	125.1	110.4	123.2	125.6

*The rates for 1942 are subject to slight correction, since they are based on provisional estimates of lives exposed to risk.

†International List (1940) titles 92, 93 (c), (d), (e), and 95.

Correspondence on the subjects discussed in these BULLETINS may be addressed to: The Editor,

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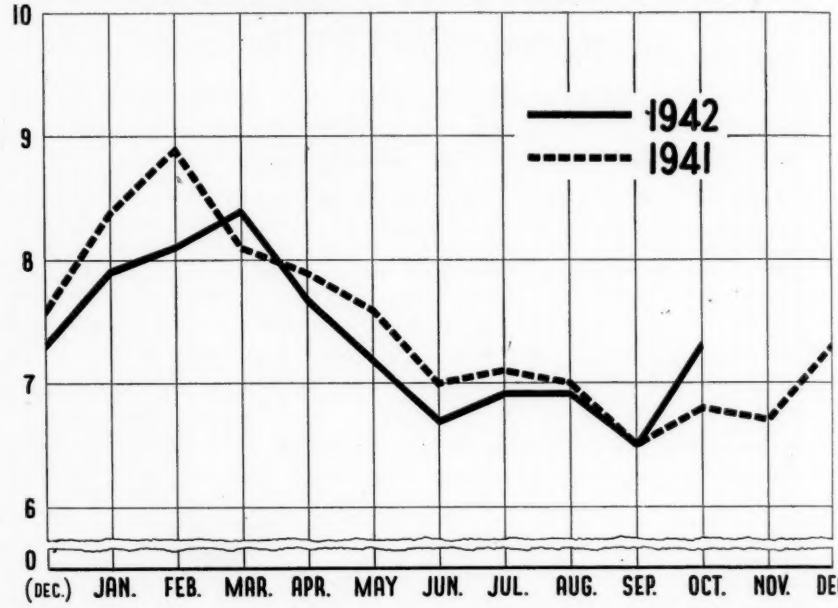
Metropolitan Life Insurance Company
1 Madison Avenue, New York, N. Y.

MORTALITY FROM ALL CAUSES

METROPOLITAN LIFE INSURANCE COMPANY
INDUSTRIAL DEPARTMENT, WEEKLY PREMIUM-PAYING BUSINESS

DEATH RATES PER 1,000 · ANNUAL BASIS (*1942 figures are provisional*)



(DEC.)	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC
1941	8.3	8.8	8.1	7.9	7.6	7.0	7.1	7.0	6.5	6.8	6.7	7.3
1942	7.9	8.1	8.4	7.7	7.2	6.7	6.9	6.9	6.5	7.3		

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